Supplemental Report 8

Notes on Methods Used to Gather and Analyze Information Included in the Accountability Report and Supplemental Reports

Parent and Staff Surveys

The Center of Excellence in Leadership of Learning (CELL) at the University of Indianapolis developed, administered, collected, and analyzed surveys of parents and staff members at the five operating Mayor-sponsored charter schools. Survey questions were developed to measure criteria in the Charter School Performance Framework developed by the Mayor's Office. Survey questions were piloted in the 2002-03 school year with a sample group of Mayor-sponsored charter school teachers and parents. The surveys were administered in April and May 2004 at all five schools. All survey responses were confidential; to preserve confidentiality, CELL collected the completed surveys and analyzed the results. Sample copies of the parent and staff survey instruments are available on-line at http://www.indygov.org/eGov/Mayor/Education/Charter/Accountability/2004/.

Parent surveys. Parent surveys were available in English and Spanish at all schools. The surveys took approximately ten to fifteen minutes to complete. Each family was asked to complete one survey even if more than one child from a family attended the charter school. Paper and pencil copies of the surveys were distributed on-site during parent-teacher conferences, sent home with students, and distributed to parents and guardians as they dropped off or picked up their students at school. Parents were notified of the survey prior to its administration through the schools' parent newsletters and/or through notices sent home with students. Parents were given the option of completing the surveys at home or at school and returning the surveys either to collection boxes at each school or by mail in envelopes provided by CELL. CELL's target response rate prior to administering the surveys was 40%. All five schools exceeded the target response rates. Exact response rates for each school are provided in the table below.

Staff surveys. The staff survey took approximately fifteen to twenty minutes to complete. Staff members at Flanner House Elementary School and Flanner House Higher Learning Center completed paper and pencil copies of the staff survey. At 21st Century Charter School, Andrew J. Brown Academy and Christel House Academy, staff surveys were administered on-line because all staff members at these schools have ready access to computers. Nearly one hundred percent of staff members at all five schools participated in the staff survey; at 21st Century Charter School, one staff member was out of school during the survey administration for a personal matter and thus unable to complete the survey.

Survey calculations. Results were rounded to the nearest whole percentage point. Calculations for both sets of surveys do not include missing responses. "Don't know" responses were included in the satisfaction rate calculations but were not included in the calculations for average rates of satisfaction.

Figure S8-1. Parent and staff survey response rates

	Parent survey		Staff survey	
	Number of respondents*	Response rate	Number of respondents	Response rate
21st Century Charter School	71 families	66.4%	13 staff members	92.8%
Andrew J. Brown Academy	217 families	75.6%	27 staff members	100%
Christel House Academy	88 families	50.3%	26 staff members	93%
Flanner House Elementary School	85 families	62.0%	13 staff members	100%
Flanner House Higher Learning Center	25 families	61.0%	4 staff members	100%

Source: All results are from confidential surveys of Mayor-sponsored charter school parents and staffs administered in spring 2004 by the Center of Excellence in Leadership of Learning at the University of Indianapolis.

Survey analyses and verifications. Dr. Ruth Green, senior fellow for research at CELL, led the overall survey administration and analyses. Staff survey data analyses were conducted by Dr. Onecia Gibson, who holds a Ph.D. in statistics from the University of Kentucky. Parent survey data analyses were conducted by Cassandra Jones, who is currently pursuing her Ph.D. in assessment and measurement at James Madison University. Gail Fox, who holds a master's degree from the University of Indianapolis and is currently a research assistant and project coordinator at CELL, coordinated the survey data collection, entry, and verification processes.

After CELL entered the survey data into its database, every fifth survey original was checked a second time to verify that survey data were entered correctly. The error rate for data verification was just 0.0022 for the parent survey; no errors were found in the staff survey data entry. To further verify the accuracy of the survey results, an expert external to CELL, Donna Stephenson, who is an instructor and special assistant to the Dean of Education at the University of Indianapolis, reviewed all final survey analyses for data entry, calculation and analysis errors and inconsistencies.

Expert Site Visits

The Center of Excellence in Leadership of Learning (CELL) at the University of Indianapolis developed a detailed protocol to guide expert site visits of Mayor-sponsored schools. The protocol, which addresses the overarching questions outlined in the Charter School Performance Framework, sets forth a detailed schedule for the visits, including lists of questions to be posed to different groups of school stakeholders.

CELL led site visits to each of the five operating schools on two occasions during the 2003-04 school year. Each site visit was conducted over the course of one school day. Review activities included classroom observations, focus groups with staff, students, and parents, and reviews of curriculum- and business-related items. The first set of site visits was conducted in January and February 2004. The second set of site visits was conducted in May and June 2004. Expert site visit team members for the visits included Dr. Ruth Green of CELL, retired superintendent Dr. Steven Tegarden, and Ms. Kaaren Rodman, a retired educator and current member of the Mayor's Charter Schools Board. To maintain independent, third-party objectivity, Mayor's Office staff does not participate in the site visits.

At the end of each visit, the site visit team provided school leaders and the Mayor's Office with feedback based on their observations. Additionally, at the end of the second set of visits, the expert

site visit team provided each school with a written report citing commendations and areas for improvement. The written reports were also delivered to the Mayor's Office, and along with the other feedback, form the basis for some observations on the performance of each school in the Mayor's Accountability Report. Again, to maintain independent, third-party objectivity, the Mayor's Office does not participate in the preparation of these reports. A detailed description of the site visit process and protocol is available on-line at http://www.indygov.org/eGov/Mayor/Education/Charter/Accountability/2004/.

Test Score Analysis

Validity of Norm-Referenced Tests: Northwest Evaluation Association Measures of Academic Progress

Measuring school performance fairly is best done through multiple lenses. The Mayor's Office has determined that it should look at not only the performance of students at a given point in time, i.e., the performance of students in a given year on the Indiana Statewide Testing of Educational Progress-Plus (ISTEP+), but also at the growth or improvement of those students over time.

The ISTEP+ measures of proficiency in math and English provide essential information. For the charter schools in their second year of operation, however, it is not possible to use these results to measure individual students' progress over time because 2003 is the first year in which students currently enrolled in grades 3 and 6 took the ISTEP+. Also, since Andrew J. Brown Academy and Flanner House Higher Learning Center just opened when ISTEP+ was administered this school year, their results did not offer any information from which the Mayor's Office could assess how much children had learned at those charter schools. Instead, they provided useful information about the *starting levels* of knowledge and skills of the charter school students. Moreover, until those tests are administered annually in grades three through eight, as the state plans to do, it is not possible to measure student growth from one grade to the next using the ISTEP+.

To ensure that the Mayor's Office, the schools, and the general public would have an ongoing sense of the progress of these public charter schools, the Mayor's Office opted to require its charter schools to administer an additional norm-referenced test each year. The test selected by the Mayor's charter schools, Measures of Academic Progress (MAP), is produced by the well-respected Northwest Evaluation Association (NWEA). The MAP is a battery of tests in several subject areas. This test:

- is administered under uniform conditions in each subject and grade level; and
- produces scores that can be compared to a representative *norming population*, i.e., a representative sample of students from the nation's schools.

The norms for the test enable observers to compare a school's students to similar students nationally. NWEA developed its norm groups by extensive sampling of student performance across districts from the major geographic regions of the country, the spectrum of district enrollment, and a broad range of socio-economic status. For example, over 1,050,000 students are included in the most recent norming group. They are drawn from 321 school districts and 24 states, and include 549,268 students tested in the fall of 2000 and 2001 and 621,021 in the spring of 2000 and 2001.[1] Within Indiana, NWEA used a norming sample of 128,546 students from 89 districts in the fall and 84,431

[1] For more information, please see the Northwest Evaluation Association: RIT Scale Norms (NWEA, August 2002).

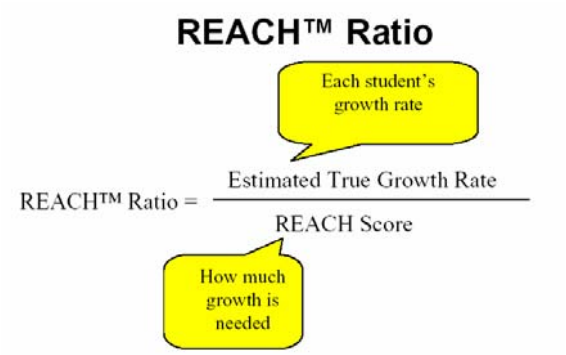
students from 60 districts in the spring.[2] In short, the Mayor's charter schools used a sound, nationally-normed test that is representative and recent.

Value-Added Analysis Methods

To measure the growth of school performance from fall to spring in the Mayor's five charter schools during the academic year 2003-04,[3] the office enlisted New American Schools (NAS). NAS is a national nonprofit based in Alexandria, Virginia dedicated to improving public education. This organization has particular expertise in *value-added analysis*, or the measurement of individual student performance over time.

The test score data from four of the five schools were analyzed using a carefully planned mixed-effects statistical model, more commonly referred to as value-added analysis (VAA).[4] The intent of VAA is to determine how much "value" a school has added to a given student's learning. Analyses such as these provide more accurate and reliable statistical estimates of student performance than conventional strategies, because through NAS' statistical model it is possible to account for the "measurement error" inherent in any test administration.

The other intent of VAA is to determine how much progress a student is making toward an outcome of value -- for example, achieving proficiency testing a given subject. NAS designed a method, the Rate of Expected Academic Change, or REACH™ Score, to assess each student's growth rate. Through this method, each student's actual growth rate is compared to an expected growth trajectory. REACH™ answers the fundamental question: "Given where this student is now, is he or she growing at a rate such that he or she will be proficient by the end of a specified timeline?" A REACH™ ratio of "1" indicates that the student is directly on track toward proficiency.

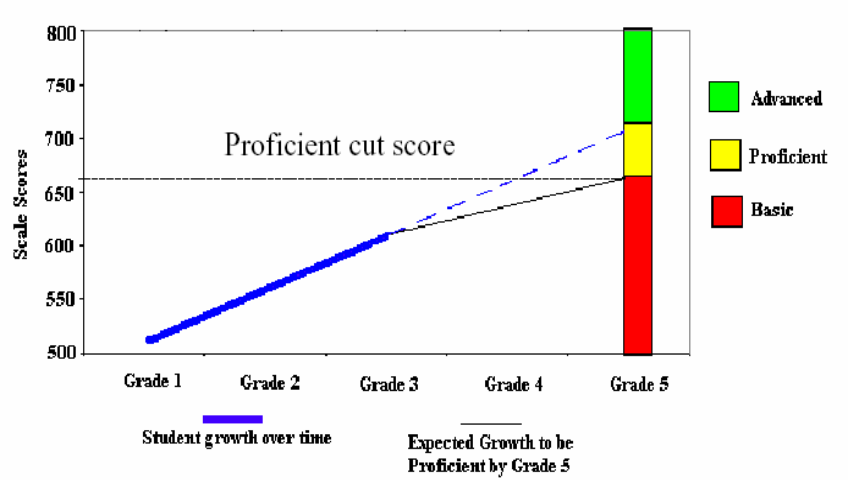


A visual example of a REACH™ Ratio greater than 1 is given below.

[2] For more information, please see the Northwest Evaluation Association: RIT Scale Norms for Indiana (NWEA, August 2002) and the Northwest Evaluation Association: RIT Scale Norms (NWEA, August 2002).

[3] Due to technical difficulties, 21st Century Charter School lost its fall 2003 testing data. Therefore, a spring to spring analysis was conducted for this school.

[4] Flanner House Higher Learning Center was not included in this portion of the analysis because of the small sample size and because it was the only high school.



According to this example, this student's academic growth rate exceeds the rate needed to reach proficiency by Grade 5.

When producing the value-added analysis, NAS implemented a four-step process for each grade and subject area.[5]

First, each of the individual scores was "adjusted" to account for measurement error. NAS did not simply subtract the observed fall score from the observed spring score. Rather, to produce more reliable estimates, NAS used its statistical model to adjust each individual score by grade and subject area to create "estimated true scores" in each category.[6]

Second, an average fall and spring scale score was calculated by grade and subject area for each school, and a percentage increase was calculated based on the average estimated scale score. The percentage increase is the difference between the new score and the old score, divided by the old score. For example, if a student in the fall has an estimated score of 100, and in the spring has an estimated score of 150, then that student would have a percentage increase of: (150-100)/100=50%.

Third, to provide a national comparison as well as a state comparison, these average fall and spring scores, which are measured in scale score units, were converted to national percentiles from the MAP by using the conversion tables in the NWEA technical manual.

Fourth, the REACH Ratio was used to determine the percentage of students in each grade who are on track to be proficient by a certain time. This analysis requires choosing an outcome of value – for

[5] This model was used for four of the five schools. In the case of the Flanner House Higher Learning Center, the model used to produce "true" or adjusted scores was not used because this was the only high school and had a relatively small sample size; "observed" scores were used instead. This method does not materially change the outcomes for that school.

[6] This process disclosed that a small number of students at the schools were administered the same test more than once during the same testing season. It is expected that students in the charter schools take each portion of the NWEA only one time per testing season. Thus, only the score for the first test that was administered was included in the analysis. This score may differ from the "official" score recorded by NWEA for that student because NWEA's official score takes into account all of the scores received by a student, not just the first one.

example, proficiency by graduation or by a certain grade – and then finding the distance from proficiency for each student and dividing that by the amount of time to reach that level.

For example, if a student in fifth grade is 30 points away from the desired outcome of proficiency by 8th grade, the student has 3 years to grow 30 points; the student needs to grow by 10 points each year. This REACH score is then compared to the student's current estimated growth rate, which in this case is the growth he or she actually achieved between 2003 and 2004. If the student's current estimated growth rate is 15, then her "REACH Ratio" would be current growth rate (15 points annually) divided by the REACH score (10 points needed annually until proficient), a ratio of 1.5. Since this REACH Ratio is greater than 1, this student is exceeding the rate of progress needed to become proficient by grade 8.

The percentage of students in the grade who have a REACH Ratio of 1 or greater is then calculated.

The MAP assessment does not have specific proficiency cut points or performance standards, but it does correlate to the ISTEP+ test. For example, a MAP score of 217 for grade 8 in Language Arts correlates to a level of "Pass" on the ISTEP.[7] These cutpoints were used to calculate the outcome of value for the REACH Ratio. The 8th grade proficiency level was chosen as the basic outcome of value for the four schools analyzed, because all of the schools plan to have 8th grades eventually. This analysis was not conducted for the Flanner House Higher Learning Center because proficiency levels were not available for grades 9-12.

Figure S8-2. Number of students included in the value-added analysis for 21st Century Charter School in the 2003-04 school year

		Reading	Math	Language
2nd Grade	Spring 2004	22	21	22
3rd Grade	Spring 2003	15	15	15
	Spring 2004	19	19	19
4th Grade	Spring 2003	15	15	15
	Spring 2004	18	18	18
5th Grade	Spring 2003	14	14	14
	Spring 2004	14	14	14
6th Grade	Spring 2003	19	19	19
	Spring 2004	19	19	19
7th Grade	Spring 2003	17	17	17
	Spring 2004	21	21	21

Source: "Progress of Indianapolis Charter Schools: An Analysis of National Test Score Data 2004," prepared by New American Schools, Alexandria, VA, 2004.

[7] For more information, please see the Northwest Evaluation Association Research Report 2003.3, "Aligning the NWEA RIT Score with the *Indiana Statewide Testing for Educational Progress Plus (ISTEP+)*," August 2003.

Figure S8-3. Number of students included in the value-added analysis for Andrew J. Brown Academy in the 2003-04 school year

		Reading	Math	Language
2nd Grade	Fall 2003	65	63	65
	Spring 2004	74	75	76
3rd Grade	Fall 2003	57	56	55
	Spring 2004	69	69	69
4th Grade	Fall 2003	42	42	39
	Spring 2004	52	53	53
5th Grade	Fall 2003	33	33	32
	Spring 2004	39	39	39

Source: "Progress of Indianapolis Charter Schools: An Analysis of National Test Score Data 2004," prepared by New American Schools, Alexandria, VA, 2004.

Figure S8-4. Number of students included in the value-added analysis for Christel House Academy in the 2003-04 school year

		Reading	Math	Language
2nd Grade	Fall 2003	45	46	47
	Spring 2004	41	41	41
3rd Grade	Fall 2003	49	49	50
	Spring 2004	43	43	42
4th Grade	Fall 2003	32	32	30
	Spring 2004	25	25	25
5th Grade	Fall 2003	22	23	24
	Spring 2004	18	18	17

Source: "Progress of Indianapolis Charter Schools: An Analysis of National Test Score Data 2004," prepared by New American Schools, Alexandria, VA, 2004.

Figure S8-5. Number of students included in the value-added analysis for Flanner House Elementary School in the 2003-04 school year

		Reading	Math	Language
2nd Grade	Fall 2003	28	28	28
	Spring 2004	31	32	32
3rd Grade	Fall 2003	30	28	30
	Spring 2004	34	34	34
4th Grade	Fall 2003	14	14	14
	Spring 2004	20	20	20
5th Grade	Fall 2003	22	22	22
	Spring 2004	24	24	24

Source: "Progress of Indianapolis Charter Schools: An Analysis of National Test Score Data 2004," prepared by New American Schools, Alexandria, VA, 2004.

Figure S8-6. Number of students available for analysis for Flanner House Higher Learning Center in the 2003-04 school year

		Reading	Math	Language
9th Grade	Fall 2003	8	9	9
	Spring 2004	11	14	12
10th Grade	Fall 2003	10	11	11
	Spring 2004	11	16	15
11th Grade	Fall 2003	16	16	16
	Spring 2004	8	10	8
12th Grade	Fall 2003	12	13	13
	Spring 2004	4	8	6

Source: "Progress of Indianapolis Charter Schools: An Analysis of National Test Score Data 2004," prepared by New American Schools, Alexandria, VA, 2004.